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09/498,995	02/07/2000	Takafumi Watanabe	04284.0829	9593

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EXAMINER

KIM, JUNG W

ART UNIT	PAPER NUMBER
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2132

DATE MAILED: 03/10/2004

4

Please find below and/or attached an Office communication concerning this application or proceeding.

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# Office Action Summary

Application No.

09/498,995

Applicant(s)

WATANABE, TAKAFUMI

Examiner

Jung W Kim

Art Unit

2132

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 February 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 3.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

### **DETAILED ACTION**

1. Claims 1-17 have been examined.

#### ***Specification***

2. The disclosure is objected to because of the following informalities: on page 3, lines 1-7, the sentence is not grammatical. Appropriate correction is required.
3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The following title is suggested: 'Efficient method for securely initializing an IC card'.

#### ***Claim Objections***

4. Claims 8 and 9 are objected to because of the following informalities: the sentences are not grammatical (see page 15, lines 14-15, 20-21). Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Art Unit: 1

6. Claims 8 and 9 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Both claims 8 and 9 initiate a step when a first determining means determines that a command message does not include data for a security function (see page 15, lines 12-13 and 19-20); this determining step is not enabled in the applicant's specification. In addition, claim 8 specifies that validity data stored in nonvolatile memory is received as a command message (see page 15, lines 5-6); the specification discloses this validity data as a "security flag" that is set when the security of an application is valid (see Specification, page 8, line 9; page 10, lines 8-19) but does not further disclose that a command message communicated to the IC card contains the validity data.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 5, 6, 11, 12, 14, and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Art Unit: 1

9. Claims 5 and 6 recite the limitation "said data" in page 14, lines 12 and 19. This limitation renders the claims indefinite since two sets of data are defined in parent claim 4.

10. Claims 11 and 14 recite the limitation "the verification of data" in page 16, line 12 and page 17, line 8. There is insufficient antecedent basis for this limitation in the claims.

11. Claims 12 and 14 recite the limitation "the justifiability of the data" in page 16, line 18 and page 17, line 6. There is insufficient antecedent basis for this limitation in the claims.

12. Claim 14 recites the limitation "the data" in page 17, lines 4 and 6. This limitation renders the claim indefinite since two sets of data are defined in parent claim 8.

13. Claim 16 recites the limitation "each security program" in page 17, lines 15 and 17. There is insufficient antecedent basis for this limitation in the claim.

14. Claims 1 and 4 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. As per claims 1 and 4, the validation steps initiated by a command to validate the security function are omitted. These steps are essential to

Art Unit: 1

clarify the relationship between the security function and the command received from outside the device.

***Claim Rejections - 35 USC § 102***

15. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

16. Claims 1-2, 4-5, 7-11, and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Iijima U.S. Patent No. 5,365,045 (hereinafter Iijima). As per claim 1, Iijima discloses a method for issuing an IC card comprising the steps of:

- a. providing a security function against unauthorized use into the device, wherein the security function is validated by a command received from outside the device (see Iijima, col. 4, lines 4-9);
- b. storing in the device data necessary to use the application program (see Iijima, col. 4, lines 41-50); and
- c. validating the security function by issuing the command after storing the data (see Iijima, col. 11, line 28-col. 12, line 19).

The aforementioned covers claim 1.

Art Unit: 1

17. As per claim 2, Iijima discloses a method for issuing IC cards as outlined above in the claim 1 rejection under 35 U.S.C. 102(b). In addition, the step of storing the data includes the step of storing a PIN code used to identify the owner of the device (see Iijima, col. 4, lines 4-8 and 45-50).

18. As per claims 4, 5, and 7, Iijima discloses a method for issuing IC cards as outlined above in the claim 2 rejection under 35 U.S.C. 102(b). In addition, these methods are implemented within and using an IC card. Hence, the invention disclosed by Iijima covers claims 4, 5, and 7.

19. As per claim 8, Iijima discloses an IC card with a security function, comprising:

- a. a nonvolatile memory (see Iijima, col. 4, lines 35-41);
- b. means for storing validity data indicating whether the security function is valid into the nonvolatile memory, wherein the validity data is received as a command message from outside of the device (see Iijima, col. 5, lines 56-60);
- c. first means for determining whether a command message provided from outside the device includes data for the security function (see Iijima, col. 6, lines 5-14);
- d. second means for determining whether the nonvolatile memory is stored with the validity data (see Iijima, col. 6, lines 15-18); and
- e. first means for writing or rewriting data into the nonvolatile memory following the command message, when the first determining means determines

Art Unit: 1

the command message does not include the data for the security function, and wherein the second determining means determines the nonvolatile memory does not store the validity data (see Iijima, col. 5, line 64-col. 6, line 50).

The aforementioned covers claim 8.

20. As per claim 9, Iijima discloses an IC card with a security function as outlined above in the claim 8 rejection under 35 U.S.C. 102(b). In addition, the card further comprises a first means for outputting a status indicating that the command message is not acceptable, when the first determining means determines the command message does not include the data for the security function and the second determining means determines the nonvolatile memory does store the validity data (see Iijima, col. 6, lines 15-18).

21. As per claim 10, Iijima discloses an IC card with a security function as outlined above in the claim 8 rejection under 35 U.S.C. 102(b). In addition, the card further comprises:

- a. a third means for determining whether verification of the data for the security function succeeds, when the first determining means determines the command message includes data for the security function (see Iijima, col. 9, line 63-col. 10, line 20); and



Art Unit: 1

- b. second means for writing or rewriting data into the nonvolatile memory following the command message, when the third determining means determines the verification is successful (see Iijima, col. 10, line 30-col. 11, line 27).

The aforementioned covers claim 10.

22. As per claim 11, Iijima discloses an IC card with a security function as outlined above. In addition, the card further comprises a second means for outputting a status indicating that the command message is not acceptable when the third determining means determines the verification of the data for the security function is not successful (see Iijima, col. 11, lines 42-62).

23. As per claim 13, Iijima discloses an IC card with a security function as outlined above. In addition, the command message further comprises:

- a. a writing or rewriting command (see Iijima, col. 10, lines 42-45); and
- b. encoded data to be written or rewritten into the nonvolatile memory after being decoded, based on verification of the data (see Iijima, col. 4, lines 9-17).

24. Claims 12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iijima in view of Schneier Applied Cryptography 2<sup>nd</sup> Edition (hereinafter Schneier). As per claims 12 and 14, Iijima covers an IC card as outlined above in the claim 13 rejection under U.S.C. 102(b). Although, Iijima does not explicitly disclose additional spare data on the command message guaranteeing the justifiability of the data,

Art Unit: 1

information transferred to an IC card is typically secured and justified by cryptographic methods as taught by Schneier (see Schneier, page 587, Section 24.13 'Smart Cards'). Furthermore, Schneier teaches several general protocols to justify data using digital signatures and hashes (see Schneier, pages 28-44; digital signature, one-way hash). It would be obvious to one of ordinary skill in the art at the time the invention was made to apply the teachings of Schneier to the invention covered by Iijima. Motivation for such an implementation would enable justification of command data by the IC card as taught by Schneier using standard means.

25. Claims 3, 6, and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iijima in view of Schneier, further in view of Grimonprez et al. U.S. Patent No. 5,473,690 (hereinafter Grimonprez). As per claim 15, Iijima covers a device as outlined above. Although, Iijima does not expressly disclose storing a plurality of application programs wherein each program has an associated security program, IC cards are typically designed to hold more than one application securely. For example, Grimonprez discloses a secure method for loading a plurality of applications on to a microprocessor of an IC card wherein each application has a corresponding security program (see Grimonprez, Figure 3, 'Name of Application' and 'Password of Application'; Figures 8 and 9). It would be obvious to one of ordinary skill in the art at the time the invention was made for the IC card to store a plurality of security programs, each corresponding to an application program. Motivation for such an implementation would enable the card to securely provide a plurality of applications wherein the

Art Unit: 1

password to access one application would be independent of the passwords to access the others.

26. As per claims 3, 6, and 16, Iijima covers a device as outlined above. In addition, each security program is separately validated in response to a prescribed command message for validation, and wherein each security program corresponds to an application program (see Iijima, col. 4, lines 4-8; col. 11, line 28-col. 12, line 19 as modified by Grimonprez, Figures 3, 8, and 9).

27. As per claim 17, Iijima covers a device as outlined above. In addition, at least one available format of the command message is separately defined, and wherein each format corresponds to an application program (see Iijima, Figures 11-17 as modified by Grimonprez, Figures 3, 8, and 9)).

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Iijima U.S. Patent No. 5,517,014.

Iijima U.S. Patent No. 4,839,792.

Iijima U.S. Patent No. 4,800,520.

Nakamura et al. U.S. Patent No. 4,974,208.

Yamaguchi U.S. Patent No. 5,039,850.

Tamada et al. U.S. Patent No. 5,729,717.

Hohle U.S. Patent No. 6,199,762.

Iijima U.S. Patent No. 5,929,428.

Iijima U.S. Patent No. 5,959,276.

Sekiya U.S. Patent No. 5,862,402.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jung W Kim whose telephone number is (703) 305-8289. The examiner can normally be reached on M-F 9:00 A.M. to 5:00 P.M..

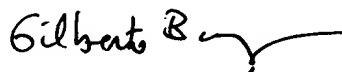
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gilberto Barron can be reached on (703) 305-1830. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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Art Unit 2132

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Application/Control Number: 09/498,995

Page 12

Art Unit: 1

March 5, 2004